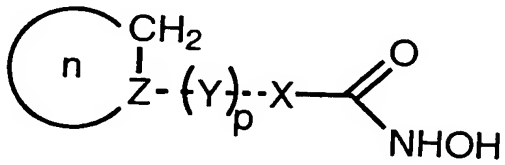
**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) ~~Compounds of the general~~ A compound of formula (I):




or ~~pharmaceutical~~ pharmaceutically acceptable salts or physiologically functional derivatives thereof wherein:

n ~~is~~ denotes a non-aromatic ring system containing two to seven carbon atoms, wherein the ring system can contain one ~~ore~~ or two double bonds;

X is C, CH or $CH_2$;

Y is selected from the group consisting of C, CH, $CH_2$, S, NR, $CH_2$-$CH_2$, $H_2C$--CH, HC--$CH_2$, C--$CH_2$, $H_2C$--C, or C--C; one or more of the hydrogen atoms can optionally be substituted by one or more substituents $\dot{R}$;

each of the dotted lines means a single, a double or triple bond with the exclusion of a combination of a triple with triple bond and a double with a triple bond;

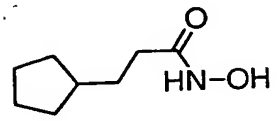
$\dot{R}$ is independently H, -CN, alkyl, cycloalkyl, aminoalkyl, alkylamino, alkoxy, -OH, -SH, alkylthio, hydroxyalkyl, hydroxyalkylamino, ~~halogene~~ halogen, haloalkyl, haloalkyloxy;

R is H, an alkyl or cycloalkyl group;

Z is CH, C, or P;

p is 0 or 1; ~~and~~

with the provisio that the following compounds are excluded:

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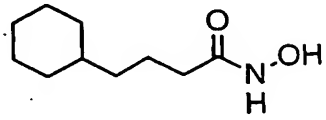


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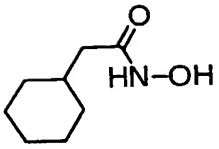



2. (Original)The compound of claim 1, wherein n = cyclopentyl or cyclohexyl.
3. (Original)The compound of claim 1, wherein n = cyclopentyl or cyclohexyl and Z is CH.
4. (Currently Amended)A pharmaceutical composition comprising a compound as defined in ~~any of claims 1 to 3~~ claim 1 in free form or in the form of a pharmaceutically acceptable ~~salts~~ salt or a physiologically functional ~~derivatives~~ derivative and a pharmaceutically acceptable excipient.

Claims 5-18. (Canceled)

19. (New) A method of inhibiting enzymes, comprising:

administering an effective amount of the compound of claim 1 to a subject thereby inhibiting enzymes having histone deacetylase activity in the subject.

20. (New) A method of therapeutically treating a subject, comprising:

administering an effective amount of the compound of claim 1 to a subject, thereby treating a disease or a therapeutic indication in which inhibition of histone deacetylase activity is effective in treating the condition.

21. (New) The composition of claim 4, wherein the human histone deacetylase is selected from the group consisting of HDACs 1-10 or a member of the SIR2 protein family.

22. (New) A method of therapeutically treating a subject, comprising:

administering an effective amount of the compound of claim 1 to a subject, thereby inducing the differentiation of cells.

23. (New) A method of therapeutically treating a subject, comprising:

administering an effective amount of the compound of claim 1 to a subject, thereby inducing the differentiation of transformed cells.

24. (New) A method of therapeutically treating a subject, comprising:

administering an effective amount of the compound of claim 1 to a subject, thereby inducing apoptosis of transformed cells.

25. (New) A method of therapeutically treating a subject, comprising:

administering an effective amount of the compound of claim 1 to a subject, thereby inhibiting proliferation of transformed cells.

26. (New) A method of therapeutically treating a subject, comprising:

administering an effective amount of the compound of claim 1 to a subject, for the treatment of a disease or a therapeutic indication in which the induction of hyperacetylation of histones would be therapeutically effective.

27. (New) A method of therapeutically treating a subject, comprising:

administering an effective amount of the compound of claim 1 to a subject, thereby treating a disease or a therapeutic indication selected from the group consisting of skin cancer, melanoma, estrogment receptor-dependent and independent breast cancer, ovarian cancer, prostate cancer, renal cancer, colon and colorectal cancer, pancreatic cancer, head and neck cancer, small cell and non-small lung carcinoma, leukemias and other types of

blood cell cancer and endocrine disease based on aberrant recruitment of histone deacetylase.

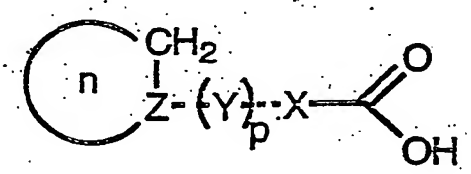
28. (New) The method according to claim 27, wherein aid endocrine disease is thyroid resistance syndrome.

29. (New) A method of therapeutically treating a subject, comprising:

administering an effective amount of the compound of claim 1 to a subject, thereby inhibiting abnormal gene expression characteristic of inflammatory disorders, diabetes, thalassemia, cirrhosis or protozoal infection.

30. (New) A process for the preparation of a compound according to claim 1, which comprises:

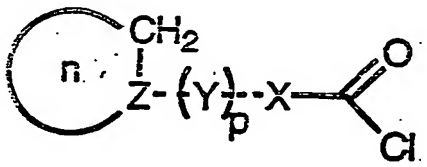
reacting an acid of formula (II)



formula (II)

wherein n, X, Y, Z, and p are defined in claim 1,

or an acid chloride of formula (III)



formula (III)

wherein n, X, Y, Z, and p are defined in claim 1, with hydroxylamine.

31. (New) A method of treatment or prophylaxis, comprising:

administering an effective amount of the composition of claim 4 to a subject in whom there is an advantage in inhibiting hyperacetylation of histones.